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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/694,843	10/23/2000	Srikanth Nataraian	10004526-1	1015

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EXAMINER	
EDELMAN, BRADLEY E	

ART UNIT	PAPER NUMBER
2153	

DATE MAILED: 04/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/694,843	NATARAIAN ET AL.	
	Examiner	Art Unit	
	Bradley Edelman	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 October 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,14 and 16-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,8,14 and 16-18* is/are rejected.

7)☒ Claim(s) *4-7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 October 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to Applicant's amendments and request for reconsideration filed on October 12, 2004. Claims 1-9, 13, 14, and 16-18 are presented for examination.

Response to Arguments

1. Examiner agrees with Applicant's argument that the Bakshi reference does not disclose that an operator selects the start node and end node as claimed. Nonetheless, Examiner has discovered additional art that renders some of the claims unpatentable, as described in the following claim rejections.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In considering claim 8, the claim recites "the type of path of interest." However, this phrase lacks sufficient antecedent basis, and is thus unclear. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-3, 14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hebel (U.S. Patent No. 6,396,810), in view of Chin et al. (U.S. Patent No. 6,456,306, hereinafter "Chin").

In considering claim 1, Hebel discloses a method for determining paths between a start node and an end node ("two locations") of a communication network, the network being formed of sub-networks ("portion[s] of a network"), the sub-networks having connectors ("nodes") and segments ("connectors"), the start node and end node each corresponding to one of the connectors (col. 5, lines 25-34; col. 6, lines 29-35; col. 3, lines 22-24), comprising:

Storing information corresponding to connectors and segments of the communication network (col. 3, lines 45-53, "memory 14 stores a program 24, network data 26, and map data 28);

Receiving, from an operator ("user"), information corresponding to the start node and end node (col. 5, lines 25-28, "to analyze communication paths between two locations 20, user enters target circuit information... [that] specifies two locations 20");

Receiving, from the operator, information corresponding to a type of connection of interest (col. 5, lines 28-29; col. 3, lines 33-38, "rate code"); and

In response to the information received, automatically determining a shortest path between the start node and the end node based upon the type of connector of interest by using only the information stored in the topology database (col. 8, lines 46-52; col. 9, lines 29-32, wherein "path analysis component 72 automatically sorts the list of communication paths [between the two locations] in ascending order according to the number of circuits 22 in each communication path").

However, Hebel fails to disclose two features of the claimed invention. First, Hebel does not specify that the stored information is necessarily stored in a *topology database*, but instead only explicitly states that it is kept in a memory. Nonetheless, Hebel does disclose that the information is map (i.e. topology) information ("map data," col. 3, line 45) and further discloses the use of a management information base database for storing management information (col. 4, lines 54-56). Given this knowledge, a person having ordinary skill in the art would have readily recognized the desirability and advantages of storing the "map data" and "network data" taught by Hebel in a database, because databases allow fast lookup time and simple data organization. Therefore, it would have been obvious to store the topology taught by Hebel in a topology database.

Second, Hebel does not explicitly disclose that the operator specifies a type of *connector* of interest, but instead describes specifying a "rate code" which seems to focus on the communication links and protocols rather than the connectors themselves (see col. 3, lines 21-40). On this point, Hebel states that the system contemplates "any grant of rate codes that define or specify the capabilities, structure, or arrangement of

circuits (col. 3, lines 41-43). Nonetheless, specifying a type of connector of interest when analyzing connectivity of elements in a network is well known, as evidenced by Chin. In a similar art, Chin discloses a system for allowing an administrator to monitor device connections in a telecommunications network (col. 1, lines 35-38, 60-67; col. 2, lines 9-15), wherein the user can specify a type of connector of interest to facilitate analysis of the network (col. 2, lines 35-40, "by selecting a site at site pane 310, the network manager is then able to select a particular type of device... [which] displays all network devices of the type indicated"). Given this teaching, a person having ordinary skill in the art would have readily recognized the desirability and advantages of allowing the administrator in Hebel to specify a type of *connector* of interest rather than a type of *connection* of interest, so that the administrator can factor in the health of connectors as well as connections to determine connection speed. Therefore, it would have been obvious to allow the network administrator in Hebel to select a type of connector of interest in addition to, or instead of, a type of connection of interest.

In considering claim 2, Hebel further discloses that the method for determining the shortest path can include selecting a path with a lowest hop count ("number of circuits in each communication path," col. 9, lines 29-32).

In considering claim 3, Chin further discloses sub-networks connected to each other, wherein the subnetworks communicate through at least one level 2 connector ("switch") and one level 3 connector ("router"), and wherein receiving information

corresponding to a type of connector of interest comprises receiving information corresponding to at least one of: level 2 and level 3 connectors, and level 3 connectors (Fig. 2, Fig. 8; col. 10, lines 30-40, wherein the administrator selects whether to view routers, switches, or other level devices).

In considering claim 14, claim 14 presents a computer program product for performing the same method described in claim 1. Thus, claim 14 is rejected for the same reasons as claim 1.

In considering claim 16, claim 16 presents a computer readable medium for performing the same method described in claim 3. Thus, claim 14 is rejected for the same reasons as claim 3.

In considering claim 17, Chin further discloses that logic configured to determine a path between the start node and the end node comprises:

Logic configured to identify sub-networks associated with the start node, and logic configured to determine whether the end node is associated with at least one of the identified sub-networks (col. 2, lines 9-16, 28-40; Figs. 1-3, wherein the topology information associates routers with subnets to create viewable maps). It would have been obvious to include this teaching in the management system taught by Hebel and Chin in order to permit the manager to view all related portions of the network.

In considering claim 18, Hebel further discloses that the logic configured to determine a shortest probable path between the start and end node comprises:

Logic configured to identify segments associated with the start node, and logic configured to determine whether the end node is associated with at least one of the identified segments (col. 3, lines 23-43; col. 4, lines 25-34, wherein the determined path associates the start node with the end node with the segments between the two).

Allowable Subject Matter

4. Claims 4-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley Edelman whose telephone number is 571-272-3953. The examiner can normally be reached from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached at 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bradley Edelman

BE
March 30, 2005